Flexible air bag housing

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Cited documents:

- EP0687597
- US5498030
- EP0471746
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The container for a folded air bag and a gas generator is flexible. It has a textile material sector with a rectangular base part, which in the complete container forms the bottom and the front and rear walls. There are two side parts connected to the main part, which in the complete container form the side walls and a cover for the container aperture. The side parts partly overlap each other in the closed position. One side part has a slit in the overlap region and the other has a tab on the end to fit in the slit.

Rough In-House Translation by an Uncertified Translator

Flexible Airbag Container

A flexible container is suggested for storing folded up Airbags and a tubular gas inflator, which is characterized by a textile material section with an essentially rectangular base (1) that forms the floor (1a) in the finished container as well as the front wall and the rear wall (1b, 1c) and two textile side parts (2, 3) connected with the base (1), which form the side panels and a cover closing the container opening at the finished container, whereby the side parts (2, 3) in closing position are arranged partly overlapping each other and whereby a side part (2) within the overlap range exhibits a slot (4) and the other side part (3) finally, a latch (5) that may be put through the slot (4), is put through the slot (4), whereby a connection is created between the side parts (2, 3) in the lap range that is releasable upon inflation of the Airbags.

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1. Flexible reservoir for the accommodation of a folded up Airbags and a tubular gas producer, characterized by a textile material section with an essentially rectangular base (1), that in the finished reservoir the floor (1a) as well as the front and the backwall (1b, ç) it forms and two textile side panels connected with the base (1) (2, 3), which form the side walls and a cover closing the container opening at the finished reservoir, whereby the side panels (2, 3) in closing position overlapping are arranged each other partly and whereby a side panel (2) in the lap range has a slot (4) and the other side panel (3) finallaterally a bracket (5), those by the slot (4) put throughable Side panels (2, 3) is producible.
2. Reservoirs according to demand 1, by it characterized that base (1) and side panels (2, 3) consist of a one-piece, textile material section, with which for the formation of the reservoir the edges with one another are partly joined.
3. Reservoir according to demand 1, by the fact characterized that base and side panels (2, 3) consist of three textile material sections, whose edges are partly joined for the formation of the reservoir with one another.
4. Reservoir after one of the demands 1 - 3, by the fact characterized that the bracket (5) consists of by a neck section (6) one piece with a side panel (3) connected, rectangular materials area a (7), which is for stiffener folded and joined to two or in multiple layers with one another.
5. Reservoir after one of the demands 1 - 4, by the fact characterized that in the base (1) by laying on top of each other and joining loop-like angles of photography (8, 9) for rod-like, metallic components are trained as the reinforcement or securing of the textile reservoir.
6. Reservoir after one of the demands 1 - 5, by the fact characterized that the connections (10, 10a, 10b) of the textile material are manufactured by sewing or sticking.

Description
The invention concerns a flexible reservoir for the accommodation of a folded up Airbags and a tubular gas producer, in particular for the front seat passenger front side of a vehicle.
Rapidly inflatable air cushions, so-called Airbags belong today to a large extent to the standard equipment of person motor vehicles. - on the basis of an electronically determined delay signal - by means of pyrotechnic a fuse a burn like an explosion with gas generation is released and/or a compressed gas set free and within 20 to 60 milliseconds the folded up Airbag blown up, which becomes thereby an air cushion, with which a hard impact of the passenger on the body parts surrounding it at least in an acceleration direction is prevented, if with a collision a given critical delay is clamped and the ignition signal is released.
For out folded up Airbag and gas generator the Airbag module consisting with fuse a suitable fitting space is provided with modern vehicles in the body, which is so plugged generally with a cover coordinated with the installation environment that the Airbag can discharge when rapid blowing up unhindered. From it two demands result for the Airbag module:

Connectors be had, with it under the cover in the fitting space be fastened can be protected located and it must regarding bearing, transport, installation preparation, mounting and normal stress must during the usual durability of a vehicle.
For a similar purpose in the DE 41 37 691 A 1 a gas bag unit was suggested, with which around the folded gas bag and the gas producer mounting a shrinkage tube with a break section is shrunk in development direction of the gas bag. However the dimensioning of the break section makes substantial difficulties, because the remaining material cross section must be sufficient, in order all with the shrinking process and during vehicle durability for occurring tensile forces conditions holds to can, on the other hand however no uncalculable obstacle to represent may, if the gas bag breaks intended like an explosion.
That applies also to from the DE 43 13 616 A 1 well-known shrink wrapping or plastic strip tax stamp, if these are not only used for the temporary storage of the gas bag and are removed before the final assembly.
In order in addition the above-mentioned demands, a multiplicity of cases or such a thing is sufficient to can was already suggested, which fulfill the aforementioned functions more or less well, which are however predominantly much too complex out-arranged and have in particular a relative to high weight. The well-known cases are usually of metal and/or synthetic made, whereby substantial efforts are directed toward it, on the one hand from a tear-firm to fasten textile fabrics consisting Airbag in the case and to equip on the other hand the case with connecting units, those to the location a safe connection with the body make possible. Such cases often are with the desired, if possible rational, economical and ecological vehicle production not acceptable. From it the function results to realize the aforementioned protective functions for a Airbag module if possible material and weight-saving without having to accept reductions in the case of the fuse of the Airbag module against contamination and any kind of damage.
To the solution of this function a flexible reservoir of the kind initially specified is suggested according to invention, which is characterized by a textile material section by an essentially rectangular base, which forms at the finished reservoir the floor as well as the front and the back wall, and two textile side panels connected with the base, which form the side walls and a cover closing the container opening at the finished reservoir, whereby the side panels in closing position are arranged each other partly overlapping and whereby a side panel in the lap range has a slot and the other side panel finallaterally a bracket, which is put throughable through the slot, whereby in the lap range a connection between the side panels, solvable on ignition of the Airbags, is producible. Thus a flexible case is created, which can fulfill all protective functions with the practically lowest expenditure for material and supplies, which is extremely easy and which does not stare differently than to cases installed any disturbing rattling noises create can. For the definition of the Airbag module the tubular gas generator can be used, as this partial is already made with well-known Airbag modules. It is sufficient to mount at the two faces of the gas producer suitable and adapted connecting units which are connected with the body can, because the Airbag can - likewise already admits as - by means of a loop around the gas producer are kept reliable. The flexible reservoir according to invention is measured in such a way the fact that it fits tightly the gas producer and folded up Airbag and opening laterally by means of slot and bracket for the

normal use is safe plugged, presents themselves when igniting however easily opens and no obstacle for by opening the rapidly unfolding Airbag.
Favorable training further of the invention thought are described in the claims 2 to 6.
Further detail sections are more near described using the version example represented in Fig. 1.
Fig. 1 shows a textiles material section, which can be cut out in one piece of a textile track spacing or in addition, be built up from several parts can, if the saving in material possible thereby is to be estimated more highly than the expenditure necessary for joining. The material section covers an essentially rectangular base 1, as well as which forms the floor 1a as well as the front at the finished reservoir - and the backwall 1b, ç two, textile side panels 2, connected with the base 1, 3, which form the side walls and a cover closing the Container opening at the finished reservoir. The side panels 2, 3 are semicircularly low-cut out and thus adapted to the tubular gas producer at their lower limitation, whose length is more large, than those width of the rectangular base 1, so that the tubular gas producer manages on the right of and on the left from the flexible reservoir and can thus at the front side with the body be connected, without the reservoir according to invention would have to be adapted to that extent to the installation conditions.
The side panels 2.3 are each other partial in closing position overlapping arranged, so that in a side panel 3 finallaterally trained bracket 5 by the slot provided in the other side panel 2 is put throughable. In this way in the Lap range of the side panels 2.3 a solvable connection is made, which is easy during an ignition of the Airbags to open and releases by lifting the side panels 2, 3 up an outlet for the unfolding Airbag.
The bracket 5 covers a narrow neck section 6 and a rectangular outer materials area 7, which can for stiffener be folded and two or in multiple layers be interconnected, whereby closes and/or opening strength the bracket slot connection to the respective requirements be adapted can. The connections of the textiles material producible by sewing or sticking are called in the rectangular materials area 7 of the bracket 5 with 10. With 10a the junction points are called, at which the side panels 2, 3 are connected with the backwall ç. In addition connection ranges 10b are to be called, by means of those at the outer ends of front and backwall 1b, ç loop-like angles of photography 8, 9 be trained can, into the rod-like, metallic components to be inserted can, if this should be necessary for the reinforcement or securement of the textiles reservoir.